ABSTRACT

A composite conduit suitable for transporting corrosive and/or erosive fluids including gases, liquids or slurries, is formed by positioning a tube formed of a material having desirable corrosion and/or erosion resistant properties within a pipe formed of a commonly weldable material such that one end of the tube is aligned with one end of the pipe. The tube has an outer diameter slightly less than the inner diameter of the pipe. The tube is affixed to the pipe by connecting the aligned ends thereof, and the pipe is compressed in a reducing operation so that the inner diameter of the pipe is reduced to a diameter that is less than or equal to the outer diameter of the tube. Adjacent, end-to-end sections of the composite conduit are connected using a coupling that employs a cylindrical body formed of the same material as the tubes of the conduits. The coupling body has an outer diameter that is slightly less than the inner diameter of the tubes of the conduits, and preferably an inner diameter that varies to form a taper at each end of the body. The body further contains a circumferential recess intermediate the ends of the body, and a ring formed of the same material as the pipes of the conduits. The ring is positioned within the recess of the body and has a circumferential stop means for limiting movement of the ends of the body within the respective ends of the conduits by the ends of the conduits abutting the stop means. At least one circumferential seal is positioned intermediate the recess and each of the tapered ends of the body for sealing the interconnected conduits. An insulator is preferably positioned in the recess between the ring and the coupling body for inhibiting the transfer of heat produced by welding the ends of the conduits together, although the insulator is not essential in all embodiments.